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2018-051

Field House, Dewsbury

NBS SPECIFICATION

L10: WINDOWS/ ROOFLIGHTS/ SCREENS/ LOUVRES

FOR TENDER

Document No:	**2018-051/ NBS_L10**
Revision:	**-**
Issue Date:	**10/09/21**
Prepared:	**IJ**
Reviewed:	**ML**

Revision Record				
	Date	**Revision**	**Prepared**	**Reviewed**
-	10/09/21	Preliminary issue for Tender.	IJ	ML

L10
Windows/ rooflights/ screens/ louvres
General

10 B Information To Be Provided With Tender

1. Submit the following **window** particulars:

   - Evidence of compliance: All windows to be CE marked to BS EN 13830:2003. Submit Declaration of Performance (DoP).
   - Typical plan, section and elevation drawings at suitable scales.
   - Typical detailed drawings at large scales, including full size head, cill and jamb sections with EPDM membranes.
   - Technical information and certification demonstrating compliance with specification of proposed incorporated products and finishes, including double glazed units, fixed / opening lights and louvres.
   - Certification, reports and calculations demonstrating compliance with specification of proposed windows.
   - Proposals for connections to and support from the building structure and building components.
   - Proposals for amendments to primary supporting structure and for secondary supporting structure additional to that shown on preliminary design drawings.
   - Schedule of builder's work, special provisions and special attendance by others.
   - Examples of standard documentation from which project quality plan will be prepared.
   - Preliminary fabrication and installation method statements and programme.
   - Schedule of products and finishes with a design life expectancy less than that specified in Clause 36, with proposals for frequencies and methods of replacement.
   - Proposals for replacing damaged or failed products.
   - Areas of non-compliance with specification.

11 Suitability Of Described Products And Clauses

1. Systems, fixing methods and types of accessories described in this document must all be suitable for the buildings location, usage and desired life spans. Any discrepancies in this specification that contradicts the stated requirements (such as fixings not providing the required lifespans) are to be highlighted to the design team at the time of tender

25 Local Authority Planning

1. The scheme has been granted Planning Approval and Listed Building Consent (with Conditions to discharge) on the basis of generic material descriptions on the submitted information. Notwithstanding this fact, there will be an obligation to seek written approval from the Authority on actual product samples of the facing materials as finally selected. This process needs to be accounted for in the main contractor's overall programme for the work.

26 Building Control Authority Approval

1. The scheme has not currently been approved by Building Regulations and as such the following specifications may be subject to comment / change to suit the regulatory body.

27 Alternative Products

1. The contractor may comply with the products specified below as prescriptive specifications in which case every aspect of the specifications shall be adhered to as stated. Alternatively, the contractor may treat the specifications as example specifications for the manufacturer and type of elements only which matches the performance criteria required. If they elect to do so then it shall be their responsibility to ensure that the performance of any alternative element proposed by them matches the performance of that specified. Adequate evidence shall be provided to the contract administrator directly comparing the performance of any alternative with that specified. If the Contractor proposes an alternate product, as deemed under the CDM Regulations 2015, they accept the design liability for this proposal.

28 A Workpackage Content

1. The solution for procurement of this section of the NBS specification is that it is part of the entire External Glazing Package let to a single contractor with responsibility for completion of the design, coordination, manufacture and installation of the various specified elements including all interfaces between the various products. Their responsibility extends to the achievement of the specified U values, air leakage rates and glass specifications including the provision of a thermal stress analysis for each glazing type taking into account orientation / build-up / backing (curtains / blinds). It is imperative that the sub-contractor has experience of this type of project and the level of quality required.

36 Design Life

1. Sub-Contractors with design responsibilities are to satisfy themselves that all individual component parts (fixings, sealants and other ancillary components) forming part of material elements within their workpackages meet with the design life requirements stated below, subject to appropriate ongoing building maintenance, the minimum design life for major elements of the Development will be as follows; Notwithstanding the above, any anomalies found within the following specifications clauses with regard to design life requirements to be notified back to the Architect.
2. Window walling, windows, gaskets, patio doors and external doors, grilles and louvres will have a design life of 25 years.

39 B Client / End User Sign Off

1. It is imperative that the Client / End User signs off the specification of all windows to ensure that the window is suitable / agree the operation of each window type. Samples of each window type are to be supplied for sign off prior to ordering of products and agreement of ironmongery / operation of windows to be agreed.

110 Evidence of performance

1. Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

115 Timber procurement

1. Timber (including timber for wood based products): Obtained from well managed forests and/ or plantations in accordance with:
    1.1. The laws governing forest management in the producer country or countries.
    1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either:
    2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
    2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Certification scheme: Forest Stewardship Council (FSC), Grown in Britain (GiB) or Programme for the Endorsement of Forest Certification (PEFC)

120 Preconstruction survey

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. Designated items: All
3. Primary support structure: Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
4. Timing: Before fabrication.

140 Control samples

1. Procedure
    1.1. Finalize component details.
    1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
    1.3. Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
2. Designated items: All

160 Potential for natural ventilation

1. Submit design plan and elevation drawings, and calculations confirming the following: Gross internal floor area of each occupied space
   Locations of openings
   Types of windows/ ventilators and total openable areas
   Types and degree of user-controls

Products

210A Wood windows

1. General: Timber windows - sliding sash
2. Standard: Non-fire rated window to BS EN 14351-1 and BS 644
3. Manufacturer: George Barnsdale & Sons Ltd
   High Street, Donington, PE11 4TA
   Tel: 01775 823 000
   Email: enquiries@georgebarnsdale.co.uk
   3.1. Product reference: Traditional Sliding Sash Window
4. Certification: Quality: EN ISO 9001: 2015
   Environmental: EN ISO 14001: 2015
   Health & Safety: EN ISO 45001: 2018
5. Timber: Generally to BS EN 942: 2007
   5.1. Species: Manufacturer's standard
   5.2. Appearance class: All visible surfaces to be J2 class
   5.3. Durability: Timber should meet durability class 3 as a minimum, as defined in BS EN 350-2: 1994, or be treated with a preservative that meets the requirements given in table 3a or 3b of BS EN 599-1: 2009 + A1: 2013
   5.4. Moisture content on delivery: 10-16%
   5.5. Certification: FSC chain of custody
6. Finish as delivered: Manufacturer's full paint system, colour: RAL 7021 (Black Grey) in accordance with BS EN 927-1 as appropriate for the intended use, appearance and exposure
7. Operation: Generally to BS 6375-2: 2009
   Bottom pane sliding sash, top pane fixed
8. Thermal performance (U-value maximum): 1.6 W/m²K in accordance with Part L1b of the Building Regulations and as indicated on DLA Architecture drawing 2018-051 / 0280 Thermal Extents Plan
9. Acoustic performance rating: Tested to BS EN ISO 717-1

   In accordance with Acoustician's requirements and as indicated on DLA Architecture drawing 2018-051 / 0281
10. Weather performance: Tested to BS 6375-1 for air permeability, water-tightness and wind resistance
11. Security: Generally to BS 6375-3: 2009
    PAS 24 to ground floor windows
12. Loading: Glazing to achieve 'safe breakage' (where applicable) according with Building Regulations Approved Document K - Part K4 'Protection against impact with glazing' Section 5.

    Glazing (where applicable) to accord with barrier loading requirements as stipulated in BS 6180:2011 Table 2 'Minimum horizontal imposed loads for parapets, barrier and balustrades'. Reference to be made to DLA Architecture drawing 2018-051 / 0282 for Guarding / Loading Plans.
13. Glazing details: Double-glazed units as NBS section L40 to specialist glazing sub-contractor design
    13.1. Beading: Manufacturer's standard
14. Ironmongery/ Accessories: Sash pull / fastener / stop / eye / pulley (as required), finish TBC by Client, subject to sample approval
15. Fixing: As per the George Barnsdale install manual
16. Other requirements: All units to be CE marked in accordance with BS EN 1279-5

    Carefully remove all existing windows and make good openings where necessary (UNO). Provide and install new double-glazed timber windows, refer to DLA Architecture drawing 2018-051 / 0700 for Window Schedule.

    Make allowance for site measure of existing windows, in order to match new window profile and features to existing where possible (e.g. sash horns, etc.)

    All to specialist sub-contractor design

210B Wood windows

1. General: Timber windows - pivot
2. Standard: Non-fire rated window to BS EN 14351-1 and BS 644

3. Manufacturer: George Barnsdale & Sons Ltd
   High Street, Donington, PE11 4TA
   Tel: 01775 823 000
   Email: enquiries@georgebarnsdale.co.uk

   3.1. Product reference: Traditional Pivot Window
   (Sash modified for top pane pivot opening, bottom pane fixed with moulded sash horns, to match appearance elsewhere)

4. Certification: Quality: EN ISO 9001: 2015
   Environmental: EN ISO 14001: 2015
   Health & Safety: EN ISO 45001: 2018

5. Timber: Generally to BS EN 942: 2007

   5.1. Species: Manufacturer's standard

   5.2. Appearance class: All visible surfaces to be J2 class

   5.3. Durability: Timber should meet durability class 3 as a minimum, as defined in BS EN 350-2: 1994, or be treated with a preservative that meets the requirements given in table 3a or 3b of BS EN 599-1: 2009 + A1: 2013

   5.4. Moisture content on delivery: 10-16%

   5.5. Certification: FSC chain of custody

6. Finish as delivered: Manufacturer's full paint system, colour: RAL 7021 (Black Grey) in accordance with BS EN 927-1 as appropriate for the intended use, appearance and exposure

7. Operation: Generally to BS 6375-2: 2009
   Bottom pane fixed, top pane pivot opening
   (sash look-a-like for consistent appearance)

8. Thermal performance (U-value maximum): 1.6 W/m²K in accordance with Part L1b of the Building Regulations and as indicated on DLA Architecture drawing 2018-051 / 0280 Thermal Extents Plan

9. Acoustic performance rating: Tested to BS EN ISO 717-1

   In accordance with Acoustician's requirements and as indicated on DLA Architecture drawing 2018-051 / 0281

10. Weather performance: Tested to BS 6375-1 for air permeability, water-tightness and wind resistance

11. Security: Generally to BS 6375-3: 2009
    PAS 24 to ground floor windows

12. Loading: Glazing to achieve 'safe breakage' (where applicable) according with Building Regulations Approved Document K - Part K4 'Protection against impact with glazing' Section 5.

    Glazing (where applicable) to accord with barrier loading requirements as stipulated in BS 6180:2011 Table 2 'Minimum horizontal imposed loads for parapets, barrier and balustrades'. Reference to be made to DLA Architecture drawing 2018-051 / 0282 for Guarding / Loading Plans.

13. Glazing details: Double-glazed units as NBS section L40 to specialist glazing sub-contractor design

    13.1. Beading: Manufacturer's standard

14. Ironmongery/ Accessories: Handle, finish TBC by Client, subject to sample approval

15. Fixing: As per the George Barnsdale install manual

16. Other requirements: All units to be CE marked in accordance with BS EN 1279-5

    Carefully remove all existing windows and make good openings where necessary (UNO). Provide and install new double-glazed timber windows, refer to DLA Architecture drawing 2018-051 / 0700 for Window Schedule.

    Make allowance for site measure of existing windows, in order to match new window profile and features to existing where possible (e.g. sash horns, etc.)

    All to specialist sub-contractor design

330 A Aluminium Windows

1. Windows within curtain wall screens to Types D/H/J/K, Center Pivot / Side Hung / Fixed Pane

   Manufacturer: Kawneer UK Ltd. Astmoor Road, Runcorn, Cheshire WA7 1QQ Tel. 01928 502 500 Fax 01928 502 509. Contact: Andrew Pearson 07971 916768 andrew.pearson@arconic.com
   Product reference: AA® 720 Casement Window
   Finish as delivered: PPC - See colours noted on the DLA elevations. 60 Microns.
   - Powder coat finish is to carry a 30-year adhesion warranty. 3rd party application of the powder coat finish will not be accepted – powder coat finish is to be applied and warranted by the systems manufacturer

Glazing details: Windows to be internally glazed (all beads internal to allow re-glazing from the inside) with EPDM gaskets. External gaskets are to be flush with the top of the rebate. Refer to separate glass specification document for thermal and acoustic requirements.

Ironmongery/ Accessories: Windows are to be fitted with:

- Low level windows to be manual operation – ,
- High level windows to be remote operation - Teleflex gearing (2 location points required for vents over 1200mm wide).

Fixing: The AA® 720 Aluminium Casement Window shall be fabricated and installed in complete accordance with the information published by Kawneer, exclusively by authorised dealers.

- Window is to be a triple chamber system (cleats front and back) to avoid 'bird beaking' at mitred corners.
- Perimeters of all windows to use EPDM secondary seal provided by the Kawneer Approved Dealer
- The Kawneer Approved Dealer is to ensure that when the vent is in the open position the effective clear opening requirement of 100mm is not obstructed by the cill profile.

Performance

- Resistance by wind load - EN 12210, Class AE2400
- Resistance to watertightness - EN 12208 Class 7A - E1200
- Air permeabilitiy - EN 12207, Class 3 - 4
- Thermal transmittance - DIN EN ISO 10077
- AA 720HW Uf = 2,1 -2,6 W/m2K
- Burglar resistance PAS24 2012
- Load bearing from safety Equipment - Requirements met
- Stability - according to guidelines
- Operating forces - EN 13115, Class 1
- Durable function - DIN EN 12400, Class 2
- Refer to L40 for full glass specs.
- U-Value requirement for the windows is 1.6W/m2k or less.
- Acoustic Rating: In line with Acoustician's requirements and as indicated on DLA Architecture drawing 2018-051 / 0281

480 Roof windows

1. Standard: To BS EN 14351-1.
2. Manufacturer: Kawneer UK Ltd.
   Astmoor Road, Runcorn, Cheshire WA7 1QQ Tel. 01928 502 500 Fax 01928 502 509
   2.1. Product reference: AA® 100 Sloped Vent Window System
3. Frame: Aluminium
   3.1. Finish: Powder coating as Section Z31
   min film thickness 40 microns
   colour: RAL 7021 (Black Grey)
4. Thermal performance (U-value maximum): 1.6 W/m²K in accordance with Part L1b of the Building Regulations and as indicated on DLA Architecture drawing 2018-051 / 0280 Thermal Extents Plans
5. Acoustic performance rating: : In accordance with Acoustician's requirements and as indicated on DLA Architecture drawing 2018-051 / 0281
6. Glazing details: Insulating glass units incorporating low emissivity glass
   Refer to NBS section L40
   All to specialist glazing sub-contractor design
7. Insulating glass units incorporating low emissivity glass
   7.1. Beading: Manufacturer's standard
8. Flashings: By window manufacturer to suit Manufacturer's standard.
9. Accessories: Integral blind
   Restrictor (max 100mm opening)
   Concealed friction stays
   Handle
   All finishes TBC by Client, subject to sample approval
10. Fixing: The AA® 100 Sloped Vent Window System shall be fabricated and installed in complete accordance with the information published by Kawneer, exclusively by authorised dealers.

Generally it is recommended that the vents of the slope are shipped to site pre-glazed and pre-fixed with bead frame profiles 678 758 or 678 759. Cover cap 953 642 is also pre-fitted.

Hinges are pre-fitted to vent or frame as part of manufacturing process.

All fabrication and installation of sloped vent operating / locking gear to sloped vent is subject to appraisal by installing dealer and subject to correct application in accordance with operating / locking gear manufacturer's instructions.

11. Other requirements: Slope glazed vents are designed to be installed within a rebate as part of a slope glazed AA100 curtain wall grid. All general construction notes from AA100* AA110 curtain wall installation instructions are applicable.

    Outer frame of slope vent suitable for glazing as either a 20mm glazing unit (with outer profile 678 083) or a 30mm glazing unit (with outer profile 678 076) within AA100 curtain wall glazing rebate. Refer to AA100 glazing charts for correct selection of internal gasketry and supporting blocks.

    Reference to be made to DLA Architecture drawing 2018-051 / 0700 for Window Schedule

490 Roof ventilators

1. Manufacturer: **Bilco UK Ltd**
   Telephone 01284 701696
   Email bilcouk@bilco.com
   Fax 01284 702531
   Pavilion 7, Fornham Business Court
   Hall Farm
   Fornham St. Martin,
   Bury St. Edmunds
   Suffolk.
   IP31 1SL

   1.1. Product reference: **SKY-FLATGLASS-SSF**
2. Type: Sliding glass AOV to head of main stair
3. Controls: Operable remotely at the fire and rescue service access level in accordance with ADB Volume 1 Paragraph 3.28e. Detailed design to be undertaken by M&E Consultant.
4. Size: 1710 x 2070 mm structural opening
   * SPECIAL * (fabricated to special size requirements)
5. Typical U-value: 1.26 W/m²K
6. Impact resistance: Tested to BS EN 1873:2014 Class SB1200
   Test impact energy 1200 J
7. Free aerodynamic area: min 1m²
8. Operation: 24V DC battery-backed control system
9. Air leakage: PASS according to EN1873:2014
   less than 1.5m3/m2h or 0.5m3/hm at pressure to 150Pa
10. Glass fire reaction: A1 according to EN 13501-1
11. Glass: Flat glass top, double layer security glass, toughened outside with aluminium spacer (space filled with argon 90%), laminated LOW-E inside
12. Cover: Assembled on a fully-welded PVC frame
13. Cover gasket: Extruded EPDM rubber gasket ensures a continuous seal when compressed in the front and back of the vent
14. Curb: 250mm height double layer (internal and external) polyester resin reinforced with fiberglass. Formed with 150mm flange / 9mm holes for securing to the roof deck
15. Curb insulation: 60mm (thick) extruded polyurethane
16. Finish: Glass: Clear;
    PVC Profiles: White;
    Metal Profiles: White powder coated; Upstand: White
17. Fixing: Manufacturer's standard
18. Other requirements: CE marked

    Reference to be made to DLA Architecture drawing 2018-051 / 0364 for design intent

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
2. Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

740 Corrosion protection

1. Surfaces to be protected: Surfaces of aluminium components, which will come into contact with mortar, concrete or plaster, or treated timber.
2. Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
   2.1. Timing of application: Before fixing components.

750 Building in

1. General: Not permitted unless indicated on drawings.
   1.1. Brace and protect components to prevent distortion and damage during construction of adjacent structure.

760 Replacement window installation

1. Standard: In accordance with BS 8213-4.

765 Window installation generally

1. Installation: Into prepared openings.
2. Gap between frame edge and surrounding construction
   2.1. Minimum: Generally min 6mm, max 10mm, but refer to separate manufacturers guidelines
   2.2. Maximum: as above
3. Distortion: Install windows without twist or diagonal racking.

770 Damp-proof courses in prepared openings

1. Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

780 Fixing of wood frames

1. Standard: As section Z20.
2. Fasteners: As per the George Barnsdale install manual
   2.1. Spacing: When not predrilled or specified otherwise, position fasteners not more than 150 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 450 mm centres.

782 Fixing of aluminium frames

1. Standard: As section Z20.
2. Fasteners: As per the Kawneer install manual
   2.1. Spacing: When not predrilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

810 Sealant joints

1. Sealant
   1.1. Manufacturer: Contractor's choice
      1.1.1. Product reference: Contractor's choice
   1.2. Colour: TBA, dependent on location
   1.3. Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 Ironmongery

1. Fixing: In accordance with any third-party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. Checking/ Adjusting/ Lubricating: Carry out at Completion and ensure correct functioning.

Ω End of Section

Specification created using NBS Chorus